

SEQUENCE LISTING

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McCall, Catherine A.  
Weber, Eric R.

<120> CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC ACID MOLECULES, AND USES THEREOF

<130> IM-2-C1-C1

<140> not yet assigned  
<141> 2001-01-05

<150> 09/322,409  
<151> 1999-05-28

<150> 60/087,306  
<151> 1998-05-29

<160> 21

<170> PatentIn Ver. 2.1

<210> 1  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 1  
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16

<210> 2  
<211> 42  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 2  
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42

<210> 3  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 3  
ctgacycttk sttggscctc attctca

27

<210> 4  
<211> 610  
<212> DNA  
<213> Canis familiaris

<220>  
<221> CDS  
<222> (29)..(430)

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Met Arg Met Leu Leu Asn Leu Ser  
1 5

ttg cta gct ctt ggg gct gcc tat gtt tct gcc ttt gct gta gaa aat 100  
Leu Leu Ala Leu Gly Ala Ala Tyr Val Ser Ala Phe Ala Val Glu Asn  
10 15 20

ccc atg aat aga ctg gtg gca gag acc ttg aca ctg ctc tcc act cat 148  
Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr Leu Ser Thr His  
25 30 35 40

cga act tgg ctg ata ggc gat ggg aac ctg atg att cct act cct gaa 196  
Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met Ile Pro Thr Pro Glu  
45 50 55

aat aaa aat cac caa ctg tgc att aaa gaa gtt ttt cag ggt ata gac 244  
Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val Phe Gln Gly Ile Asp  
60 65 70

aca ttg aag aac caa act gcc cac ggg gag gct gtg gat aaa cta ttc 292  
Thr Leu Lys Asn Gln Thr Ala His Gly Glu Ala Val Asp Lys Leu Phe  
75 80 85

caa aac ttg tct tta ata aaa gaa cac ata gag cgc caa aaa aaa agg 340  
Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu Arg Gln Lys Lys Arg  
90 95 100

tgt gca gga gaa aga tgg aga gtg aca aag ttc cta gac tac ctg caa 388  
Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe Leu Asp Tyr Leu Gln  
105 110 115 120

gta ttt ctt ggt gta ata aac acc gag tgg aca ccg gaa agt 430  
Val Phe Leu Gly Val Ile Asn Thr Glu Trp Thr Pro Glu Ser  
125 130

tgagaacaaa ccggcattt gtagtggaaat atttggaga agaatggttt tttggcgatg 490

agaatgaggg ccaaccaaca gtagggactt aatggccagt ataactaagc ttcagagaca 550

aagtaaatat ttcaggcatc ctactactt atcacttcac acagatgaaa tatatttgag 610

<210> 5

<211> 134

<212> PRT

<213> Canis familiaris

<400> 5

Met Arg Met Leu Leu Asn Leu Ser Leu Leu Ala Leu Gly Ala Ala Tyr  
1 5 10 15

Val Ser Ala Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu  
20 25 30

Thr Leu Thr Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly  
35 40 45

Asn Leu Met Ile Pro Thr Pro Glu Asn Lys Asn His Gln Leu Cys Ile  
50 55 60

Lys Glu Val Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His  
65 70 75 80

Gly Glu Ala Val Asp Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu  
85 90 95

His Ile Glu Arg Gln Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val  
100 105 110

Thr Lys Phe Leu Asp Tyr Leu Gln Val Phe Leu Gly Val Ile Asn Thr

115

120

125

Glu Trp Thr Pro Glu Ser

130

<210> 6

<211> 610

<212> DNA

<213> Canis familiaris

<400> 6

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catcgccaaa aaaccattct tctccaaaat cttccactac aataagccgg ttgttctca 180  
actttccgggt gtccactcgg tggttattac accaagaaat acttgçaggt agtctaggaa 240  
ctttgtcact ctccatcttt ctccctgcaca ccttttttt tggcgctcta tgggttctt 300  
tattaaagac aagtttggaa atagtttatac cacagcctcc ccgtggccag ttgttctt 360  
caatgtgtct ataccctgaa aaacttcttt aatgcacagt tggtgatttt tatttcagg 420  
agtaggaatc atcaggttcc catgcctat cagccaagtt cgatgagtg agagcagtgt 480  
caaggctct gccaccagtc tattcatggg attttctaca gcaaaggccag aaacataggc 540  
agccccaaaga gctagcaaac tcaaatttag aagcattctc atagctctga aatgttcagt 600  
gtttgccttg 610

<210> 7

<211> 402

<212> DNA

<213> Canis familiaris

<400> 7

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cgaacttggc tgataggcga tgggaacctg atgattccta ctccctgaaaa taaaatcac 180  
caactgtgca ttaaagaagt tttcagggat atagacacat tgaagaacca aactgcccac 240  
ggggaggctg tggataaaact attccaaaac ttgttcttaa taaaagaaca catagagcgc 300  
aaaaaaaaaa ggtgtgcagg agaaagatgg agagtgacaa agttcctaga ctacctgcaa 360  
gtatttcttg gtgtaataaaa caccgagttt acaccggaaa gt 402

<210> 8

<211> 402

<212> DNA

<213> Canis familiaris

<400> 8

actttccgggt gtccactcgg tggttattac accaagaaat acttgçaggt agtctaggaa 60

ctttgtcact ctccatctt ctcctgcaca ccttttttt tggcgctcta tgtgttctt 120  
tattaagac aagtttggaa atagtttatac cacagcctcc ccgtggcag tttggttctt 180  
caatgtgtct ataccctgaa aaacttctt aatgcacagt tggtgatttt tatttcagg 240  
at taggaatc atcagggttcc catcgccat cagccaagtt cgatgagtg agagcagtgt 300  
caaggtctct gccaccagtc tattcatggg attttctaca gcaaaggcag aaacataggc 360  
agccccaaaga gctagcaaac tcaaattcag aagcattctc at 402

<210> 9  
<211> 345  
<212> DNA  
<213> Canis familiaris

<220>  
<221> CDS  
<222> (1)...(345)

<400> 9  
ttt gct gta gaa aat ccc atg aat aga ctg gtg gca gag acc ttg aca 48  
Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr  
1 5 10 15

ctg ctc tcc act cat cga act tgg ctg ata ggc gat ggg aac ctg atg 96  
Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met  
20 25 30

att cct act cct gaa aat aaa aat cac caa ctg tgc att aaa gaa gtt 144  
Ile Pro Thr Pro Glu Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val  
35 40 45

ttt cag ggt ata gac aca ttg aag aac caa act gcc cac ggg gag gct 192  
Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His Gly Glu Ala  
50 55 60

gtg gat aaa cta ttc caa aac ttg tct tta ata aaa gaa cac ata gag 240  
Val Asp Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu  
65 70 75 80

cgc caa aaa aaa agg tgt gca gga gaa aga tgg aga gtg aca aag ttc 288  
Arg Gln Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe  
85 90 95

cta gac tac ctg caa gta ttt ctt ggt gta ata aac acc gag tgg aca 336  
Leu Asp Tyr Leu Gln Val Phe Leu Gly Val Ile Asn Thr Glu Trp Thr  
100 105 110

ccg gaa agt 345  
Pro Glu Ser

<210> 10  
<211> 115  
<212> PRT  
<213> Canis familiaris

<400> 10  
Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr  
1 5 10 15

Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met  
20 25 30

Ile Pro Thr Pro Glu Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val  
35 40 45

Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His Gly Glu Ala  
50 55 60

Val Asp Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu  
65 70 75 80

Arg Gln Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe  
85 90 95

Leu Asp Tyr Leu Gln Val Phe Leu Gly Val Ile Asn Thr Glu Trp Thr  
100 105 110

Pro Glu Ser  
115

<210> 11  
<211> 345  
<212> DNA  
<213> Canis familiaris

<400> 11  
actttccgggt gtccactcggt tgtttattac accaagaaat acttgcagggt agtcttaggaa 60  
ctttgtcaact ctccatcttt ctcctgcaca ccttttttt tggcgctcta tgtgttcttt 120  
tattaaagac aagttttggaa atagtttatac cacagcctcc ccgtggcag tttggttctt 180  
caatgtgtct ataccctgaa aaacttcttt aatgcacagt tggtgatttt tattttcagg 240  
agtaggaatc atcagggttcc catgcctat cagccaagtt cgatgagtgg agagcagtgt 300  
caaggtctct gccaccagtc tattcatggg attttctaca gcaaa 345

<210> 12  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 12  
gggctcgaga aaagatttgc tgttagaaaat cccatg 36

<210> 13  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 13  
cccgccggccg ctcaactttc cggtgtccac tc 32

<210> 14  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 14  
aggcaaacac tgaacatttc 20

<210> 15  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 15  
tctccaaaat cttccactac 20

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 16  
tcaaggagg ctataaattc 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Primer

<400> 17  
ttatagtcaa gggcatatcc 20

<210> 18  
<211> 1658  
<212> DNA  
<213> Canis familiaris

<220>  
<221> intron  
<222> (171)..(373)

<220>  
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<222> (407)..(1275)

<220>  
<221> intron  
<222> (1405)..(1522)

<400> 18

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ttggggctgc ctatgttct gccttgctg tagaaaatcc catgaataga ctggtggcag 120  
agaccttgac actgctctcc actcatcgaa cttggctgat aggcgatggg gtaattttct 180  
tttgattcc tacagtcttt aaaatgcattt ggttaattggg ggtggtggtc agttttaaa 240  
gatccattat caataatgaa gtaatgagt ttaataatata ataatggta accatgttac 300  
tcagaagaat tatattaaaa gttatgaacc ttacaataca taaaaatga atgttggttc 360  
cttctttt cagaacctga tgattcctac tcctgaaaat aaaaatgtaa gttaaatttat 420  
gatttgataa aatgattaca tgaatcagtt tcataattta agctataaaag tatacgat 480  
cattggatg atttaatttt atctatTTT ttttatgtg tgccggatgtt aattatgtgc 540  
ttatgaatat taggaatggt gtaggaatg gctctacaat attaagttaga atccattaag 600  
caagtggatc aggcccTTT ttgatgttgt cagttctcca tctcaaagag cctcgtgtca 660  
ggcattctt caaaaagaat tccatattgg gtcagagata cttccctaggc tccattcacc 720  
tctgtcggtt gcttccctca cctcaacgtt tttctgaaag tactagcaac ttggggttat 780  
atTTTtagaa ttatggtcag tagacatgaa aatatacagt gaagtcctat attaatagtc 840  
acttccacat atttaatga ttttaactc taatggatc atatacatct ggagtatgtc 900  
atggtcatat taaaatgtta aaaaatgtat atcattagtc taaatagaat aaaattacca 960  
gctagaacta tacgaggaaa ttctgaggtg aggttaaatca gtaaggcagt tgtattatac 1020  
ctcgtaaagca ttatTTTtc attaattcatt tcatttat catttgcattt acttctcagt 1080  
aattatataa acatcattta cttatggtaa ttatagctt gtataagggtt gttcccacc 1140  
tggaaaagac acaagtaaaa acctcttggg agaagggAAC ttgtgtaaac cccacaaaaac 1200  
aaagtctaac ttttggacc aaatTTTtat gccttggttt gatgaattat atTTTtaaa 1260  
atcttcctca tttagcacca actgtgcatt aaagaagttt ttcagggtt agacacattt 1320  
aagaacccaa ctgccacacgg ggaggcgttg gataaactat tccaaaaactt gtcttaata 1380  
aaagaacaca tagagcgcca aaaaagtaat taaagacatt tggaaaaaac ttaagtat 1440  
ttgtctgact ctgcctgtt tttttttt ttttacaag aattgacagt ttccctacaat 1500  
atctcctctg ttctttaac agaaaaagggtg tgcaggagaa agatggagag tgacaaagtt 1560  
cctagactac ctgcaagttt ttcttgggtt aataaacacc gagtggacac cgaaaaagtt 1620  
agaacaaacc ggcttattgt agtggaaagat tttggaga 1658

<210> 19

<211> 1658

<212> DNA

<213> Canis familiaris

<400> 19

tctccaaaat cttccactac aataagccgg tttgttctca actttccgggt gtccactcgg 60  
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ctcctgcaca cctttctgt taaaagaaca gaggagat tttgttgcattt ttttgcattt 180  
tgtaaaaaaaaaaaaaaa acaggcagag tcagacaaat atacttaatgt ttttgcattt 240  
tgtcttaac ttacttttgcgcctctatg ttttgcattt taaaagacaa gttttggaaat 300  
agtttatcca cagcccccgtggcagtt ttttgcattt atgtgtctat accctgaaaa 360  
acttctttaa tgcacagttt ttttgcattt aggaagattt taaaatataat aattcatcaa 420  
aacaaggcat aaaaattgg tccaaaagtt agactttgtt ttttgggggtt tacacaagtt 480  
cccttctccc aagaggTTT tacttgcattt ttttccgggtt gggaaaccac cttataactaa 540  
gctataattt ccataagttt atgtgtttt tataattact gagaagttt acaaattgtt 600  
taaatgaaat gattaatgaa aaataaaatgc ttacgaggta taataacaact gccttactga 660

tttacctcac ctcagaattt cctcgtagat ttctagctgg taattttatt ctattnagac 720  
taatgatatac acattttaa catttataa tgaccatgac atactccaga tgtatatgtat 780  
tccatttagag taaaaaatca tttaaatatg tggaagtgc tatataatata ggacttcact 840  
gtatatttc atgtctactg accataattc taaaatata accccaagtt gctagttactt 900  
tcagaaaaac gttgagggtga ggaaagccaa cgacagaggt gaatggagcc taggaagttat 960  
ctctgaccac atatggaatt ctggggaaa gaatgcctga cacgaggctc ttggagatgg 1020  
agaactgaca acatcaaaaa agggcctgat ccacttgctt aatggattct acttaatatt 1080  
gtagagccat tcctaaccacc attcctaata ttcatagca cataatttac atccgcacac 1140  
ataaaaaacaa aatagataaa attaaatcat cccaatgtt actgataactt tatactttaa 1200  
aatatgaaac tgattcatgt aatcattta tcaaatacata atttaactta catttttatt 1260  
ttcaggagta ggaatcatca ggttctgaaa aagaaaggaa acaacattca ttttaatgt 1320  
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attattaaca ctcattactt cattattgtt aatggatctt taaaaacttag ccaccaccac 1440  
caattaccca tgcatttaa agactgttagg aatcaaaaaag aaaattaccc catcgctat 1500  
cagccaaaggtt cgatgagtgg agagcagtgt caaggtctct gccaccagtc tattcatggg 1560  
attttctaca gcaaaggcag aaacataggc agccccaaaga gctagcaaac tcaaattcag 1620  
aagcattgtc atagctctga aatgttcagt gttgcct 1658

<210> 20  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: N-terminal peptide

<400> 20  
Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu  
1 5 10 15

<210> 21  
<211> 671  
<212> DNA  
<213> Canis familiaris

<400> 21  
aggcaaacac tgaacatttc agagctatga gaatgcttct gaatttgggt ttgctagctc 60  
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agaccttgcac actgctctcc actcatcgaa cttggctgtt aggcgatggg gtaattttct 180  
ttttgattcc tacagtcttt aaaatgcattt ggttaattgggt ggtgggtggct agttttttaaa 240  
gatccattat caataatgaa gtaatgatgt ttaataatata ataatggta accatgttac 300  
tcagaagaat tatattaaaa gttatgaaac ttacaataca ttaaaaatga atgttgtttc 360  
ctttctttt cagaacctga tgattcctac tcctgaaaat aaaaatcacc aactgtgcat 420  
taaagaagtt tttcagggtt tagacacattt gaagaaccaa actgcccacg gggaggctgt 480  
ggataaaacta ttccaaaact tgcatttaat aaaagaacac atagagcgcc aaaaaaaaaaag 540

gtgtgcagga gaaagatgga gagtgacaaa gttccttagac tacctgcaag tatttcttgg 600  
tgtaataaac accgagtgga caccggaaag ttgagaacaa accggcttat tgtagtggaa 660  
gattttggag a 671